

TA-F110/F210

SERVICE MANUAL

AEP Model

UK Model

TA-F110/F210

E Model

TA-F110



Photo: TA-F210

SPECIFICATIONS

Amplifier

Continuous RMS power output (both channels driven simultaneously)

AEP model

		TA-F110	TA-F210
DIN, 1 kHz	4 ohms	40W + 40W	80W + 80W
	8 ohms	30W + 30W	57W + 57W
20 Hz - 20 kHz THD 0.05%	4 ohms	27W + 27W	50W + 50W
	8 ohms	24W + 24W	40W + 40W

UK, E model

		TA-F110	TA-F210
DIN, 1 kHz, 8 ohms		40W + 40W	70W + 70W
20 Hz - 20 kHz THD 0.05%, 8 ohms		30W + 30W	50W + 50W

Input

Input jack	Jack type	Sensitivity
PHONO	Phono	2.0 mV
TUNER, CD, VIDEO/AUX, TAPE/DAT	Phono	150 mV
Impedance		S/N (weighting network, input level)
50 kilohms		70 dB (A, 2 mV)
50 kilohms		100 dB (150 mV)

Output

Output jack	Jack type	Voltage/impedance
REC OUT	Phono jacks	Voltage 150 mV Impedance 1 kohms
SPEAKERS	—	AEP model: Accepts speakers of 4 – 16 ohms. UK, E model: Accepts speakers of 8 – 16 ohms.
HEAD-PHONES	Stereo phone jack	Accepts low and high impedance headphones.

Tone controls

	Response	Turnover frequency
BASS	±7 dB (100 Hz)	500 Hz
TREBLE	±8 dB (15 kHz)	3 kHz

Loudness (Attenuation 30 dB) (TA-F210 only)

+3 dB (100 Hz)

+3 dB (10 kHz)

— Continued on next page —

INTEGRATED STEREO AMPLIFIER
SONY®

Harmonic distortion	Less than 0.05% at rated output
Intermodulation (IM) distortion (60 Hz:7 kHz = 4:1)	Less than 0.05% at rated output
Frequency response	
PHONO: RIAA equalization curve	
±0.5 dB	
TUNER, CD, VIDEO/AUX, TAPE1,	
TAPE2/DAT: 7 Hz – 100 kHz, ±3 dB	
Residual noise	Less than 170 µV (network A)
Damping factor	40 (8 ohms, 1 kHz)

General

System	Preamplifier: Low-noise, high-gain equalizer amplifier Power amplifier: Pure-complementary SEPP OCL power amplifier with all stages directly coupled
Power requirements	AEP model: 220 V AC, 50 Hz UK model: 240 V AC, 50 Hz E model: 120 V, 220 V or 240 V AC adjustable, 50/60 Hz
Power consumption	AEP model: TA-F110: 90W TA-F210: 150W UK model: TA-F110: 160W TA-F210: 260W E model: TA-F110: 70W
Dimensions	Approx. 430 × 135 × 315 mm (w/h/d) (17 × 5 1/8 × 12 1/8 inches)
Weight	AEP model: TA-F110: Approx. 5.7 kg (12 lb 9 oz) TA-F210: Approx. 7.4 kg (16 lb 5 oz) UK model: TA-F110: Approx. 5.6 kg (12 lb 6 oz) TA-F210: Approx. 6.8 kg (15 lb) E model: TA-F110: Approx. 5.6 kg (12 lb 6 oz)

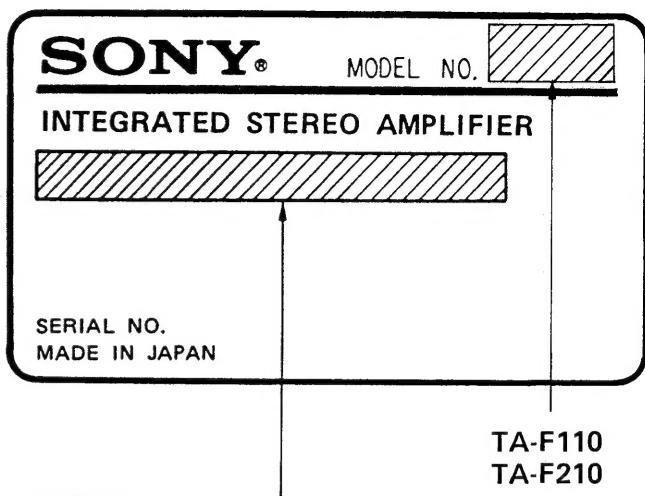
Design and specifications subject to change without notice.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK OR DOTTED LINE WITH MARK ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

— Specification Label —



TA-F110
TA-F210

TA-F110:

AEP Model: AC: 220 V ~ 50/60 Hz
UK Model: AC: 240 V ~ 50/60 Hz
E Model: AC: 120, 220, 240 V ~ 50/60 Hz

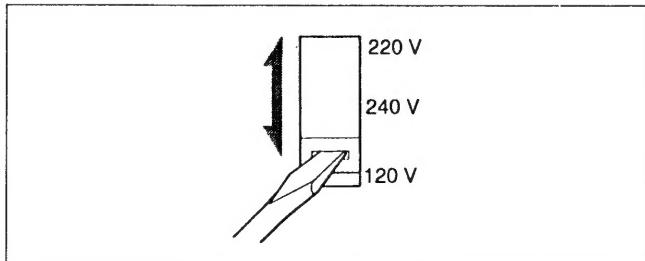
TA-F210:

AEP Model: AC: 220 V ~ 50/60 Hz
UK Model: AC: 240 V ~ 50/60 Hz

On operating voltage

Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.

Where purchased	Operating voltage
UK model	240 V AC
AEP model	220 V AC
E model	120 V, 220 V or 240 V AC adjustable The voltage selector is located on the rear panel. If the selector must be reset, disconnect the AC power cord and set the selector to the proper voltage of your local power supply.

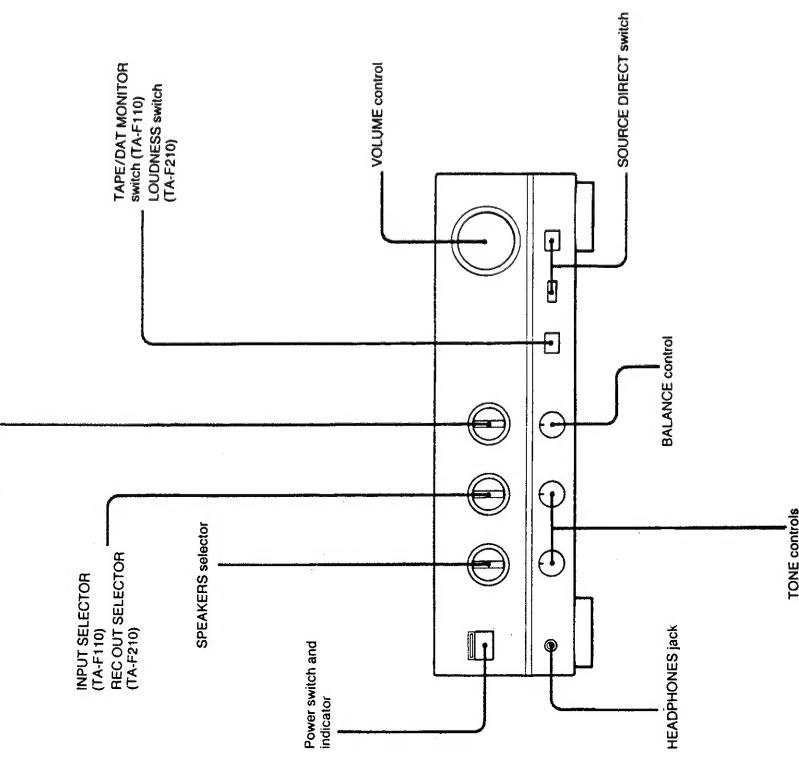


Parts identification

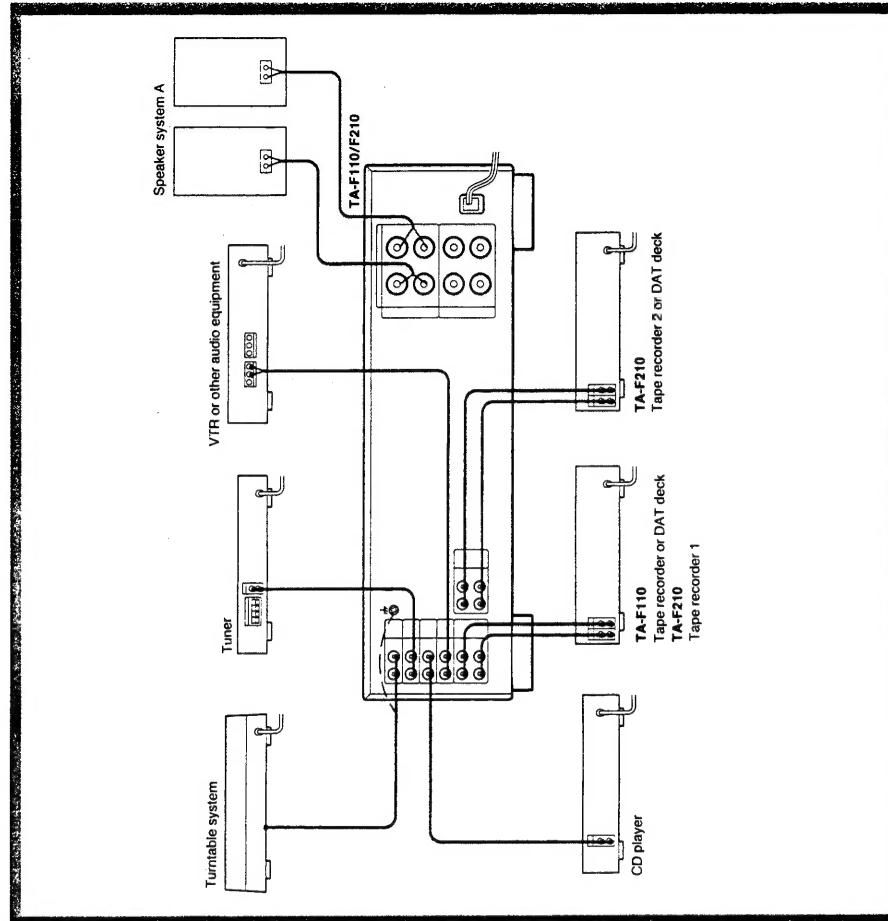
Connections

Notes on Connection

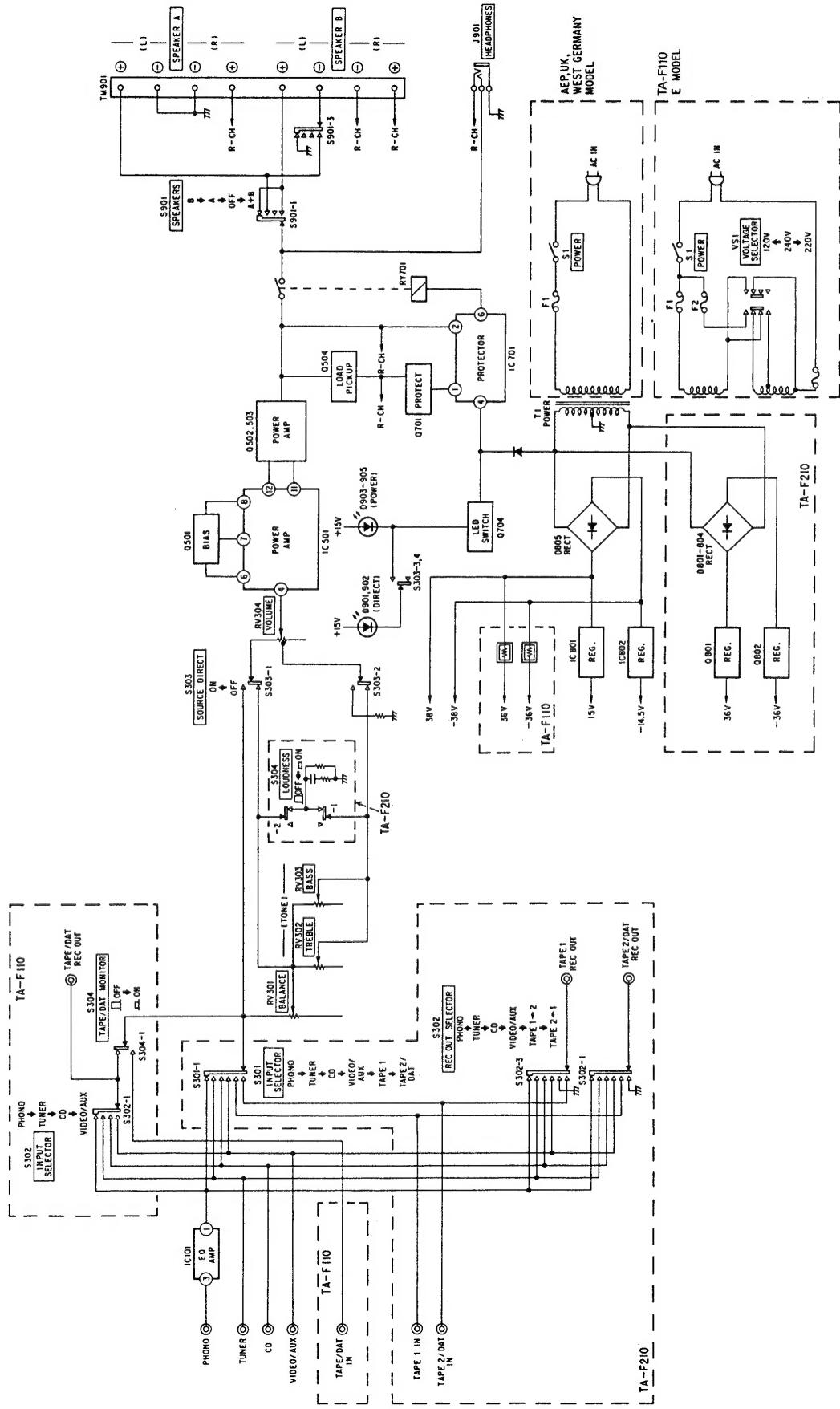
- Connect the AC power cord last. Make sure power is off.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for left channel (L).
- Fully insert cable connectors into jacks. Loose connections may cause hum or noise.



SECTION 1 GENERAL



SECTION 2 BLOCK DIAGRAM



SECTION 3

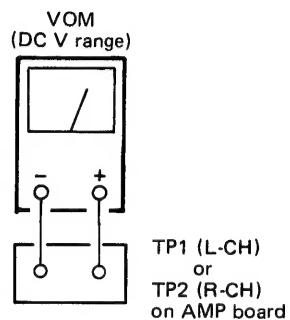
ELECTRICAL ADJUSTMENTS

NOTE:

- Adjustment should be performed 10 minutes after the POWER switch is on (POWER ON).

Bias Current Adjustment

Note : This adjustment should be performed under thermal stable condition. Before starting the adjustment, wait for more than an hour after switch off for cooling, and perform the adjustment within one minute after switching on.



Procedure :

1. Set main volume to minimum position.
2. Switch on the set.
3. Adjust RV501 (RV601 for right channel) so that the voltage across TP1 and TP2 becomes the value indicated below.

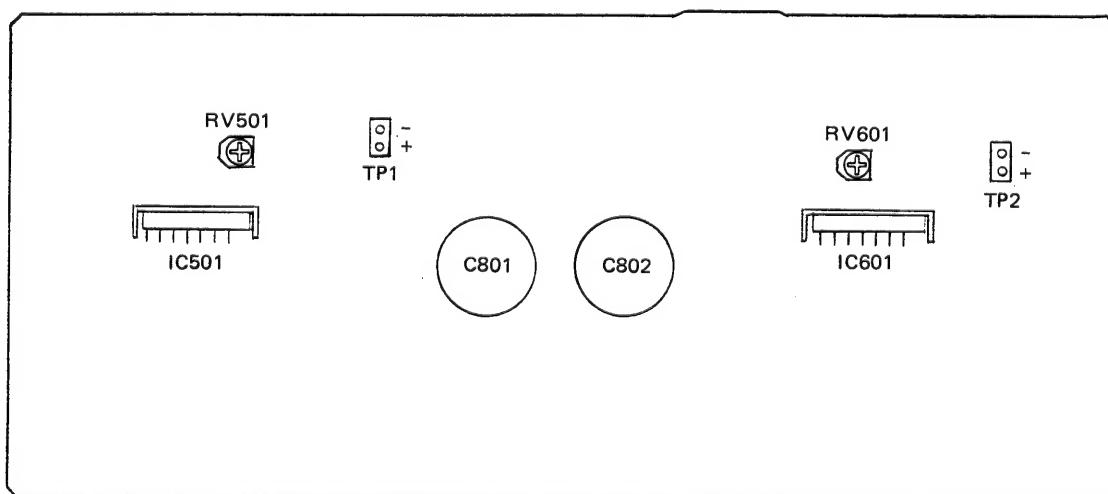
Adjustment values :

TA-F110 $4\text{mV} \pm 0.3\text{mV}$

TA-F210 $2\text{mV} \pm 0.3\text{mV}$

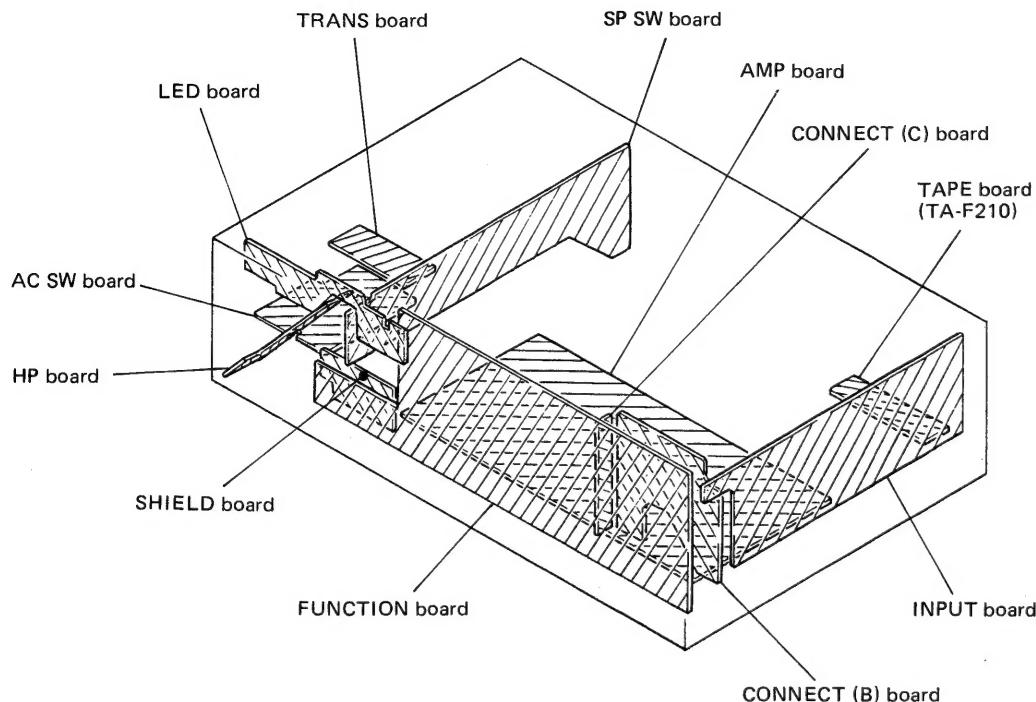
Adjustment Location:

[AMP BOARD] – Component Side –

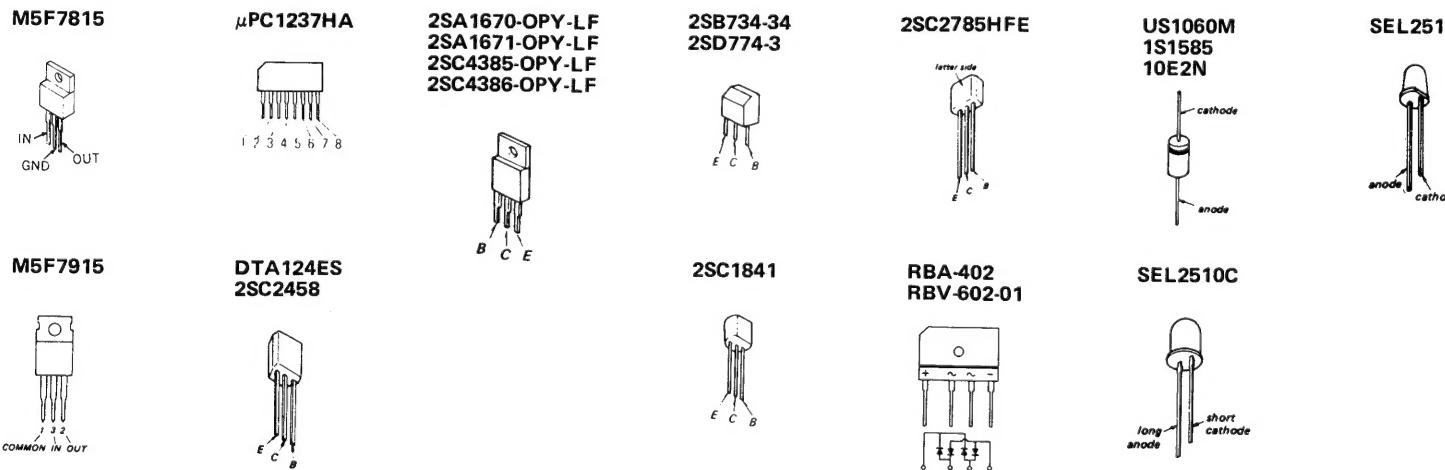


SECTION 4 DIAGRAMS

4-1. CIRCUIT BOARDS LOCATION

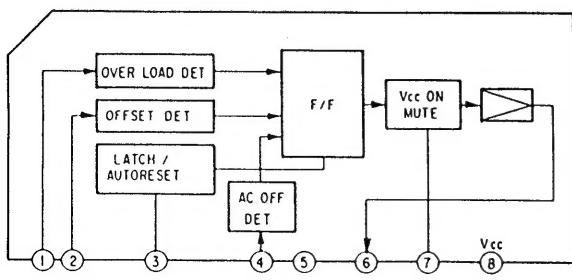


4-2. SEMICONDUCTOR LEAD LAYOUTS



4-3. IC BLOCK DIAGRAMS

IC701 μPC1237HA

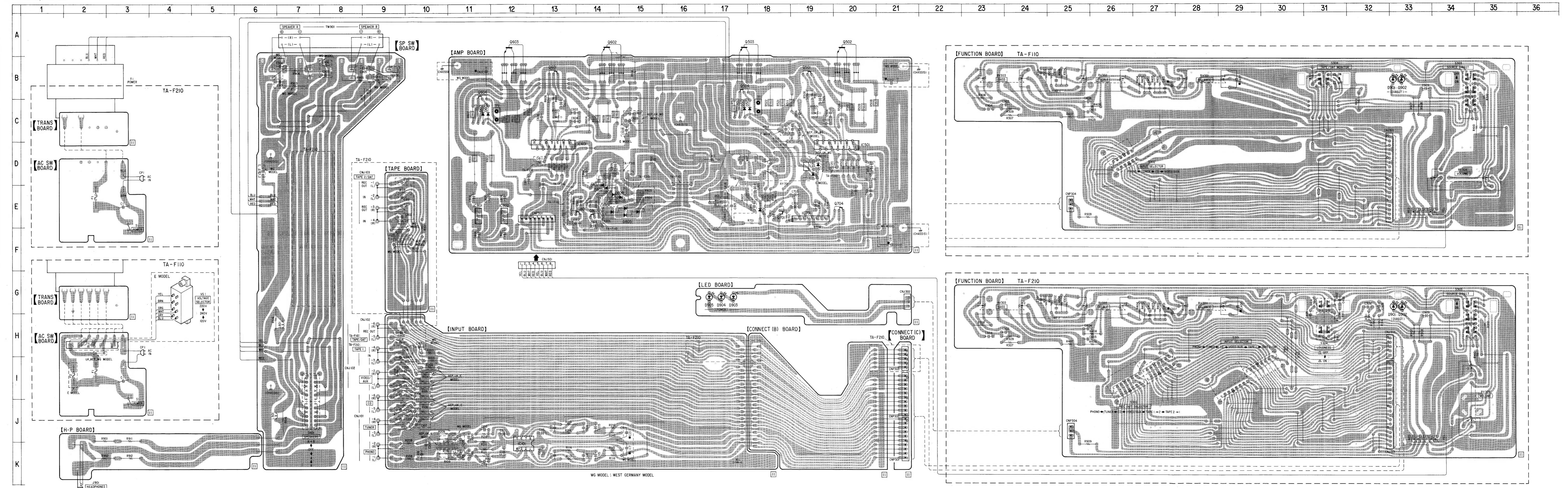


4-4. PRINTED WIRING BOARDS • See page 6 for Circuit Boards Location and Semiconductor Lead Layouts.

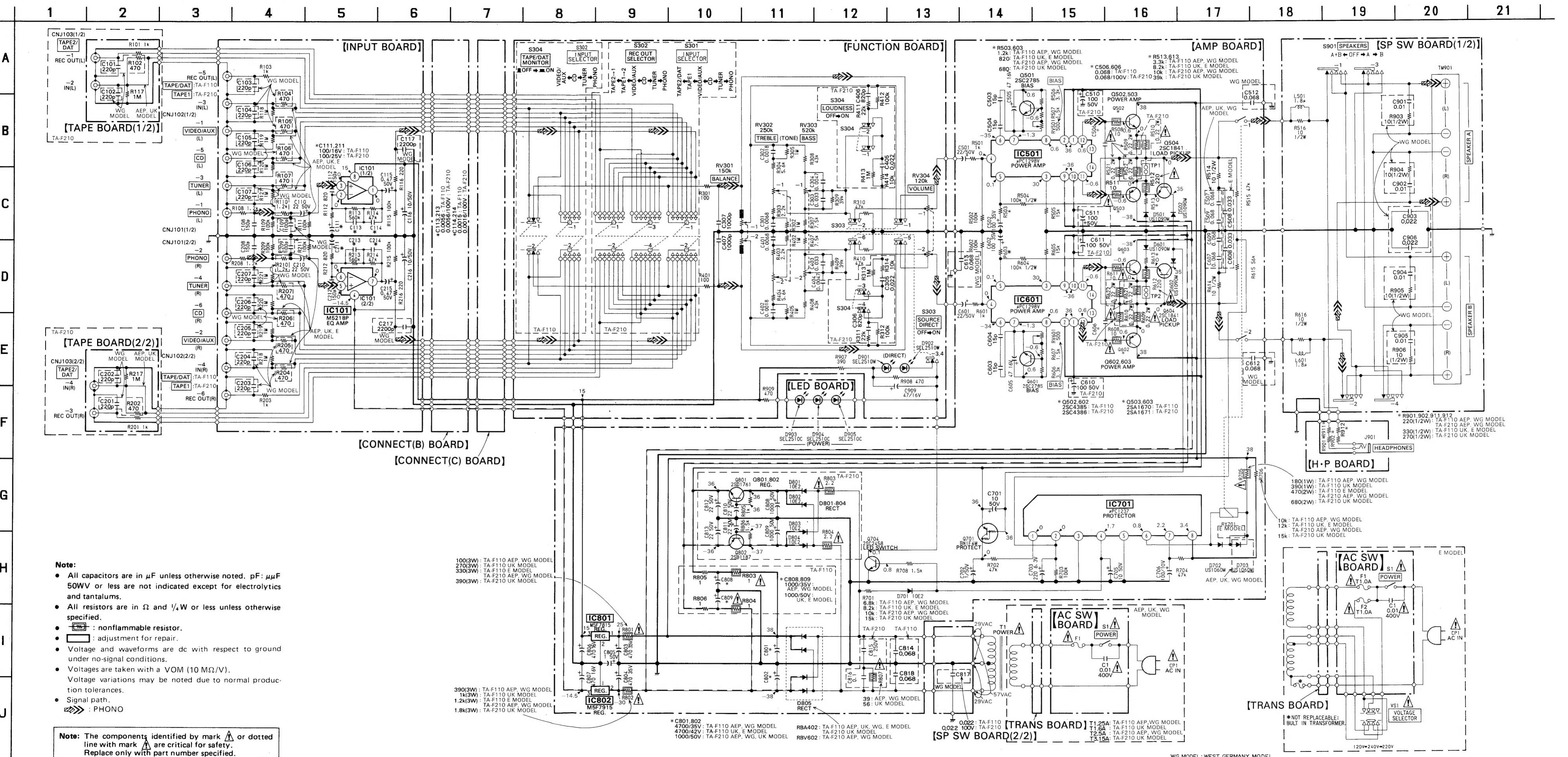
Note:
 • ○ : parts extracted from the component side.

• Semiconductor Location

Ref. No.	Location
D501	C-17
D502	C-18
D601	C-11
D602	C-11
D701	E-18
D702	D-19
D703	D-19
D801	E-14 (F210)
D802	E-14 (F210)
D803	E-14 (F210)
D804	E-14 (F210)
D805	E-15
D901	G-33
D902	G-33
D903	G-17
D904	G-17
D905	G-17
IC101	K-12
IC501	D-20
I601	D-13
IC701	E-19
IC801	E-11
IC802	E-12
Q501	B-19
Q502	A-20
Q503	A-18
Q504	B-17
Q505	B-13
Q506	A-14
Q507	B-11
Q508	A-12
Q509	B-11
Q510	E-18
Q704	E-20
Q801	E-13 (F210)
Q802	E-14 (F210)



4-5. SCHEMATIC DIAGRAM • See page 6 for IC Block Diagrams.



SECTION 6

EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

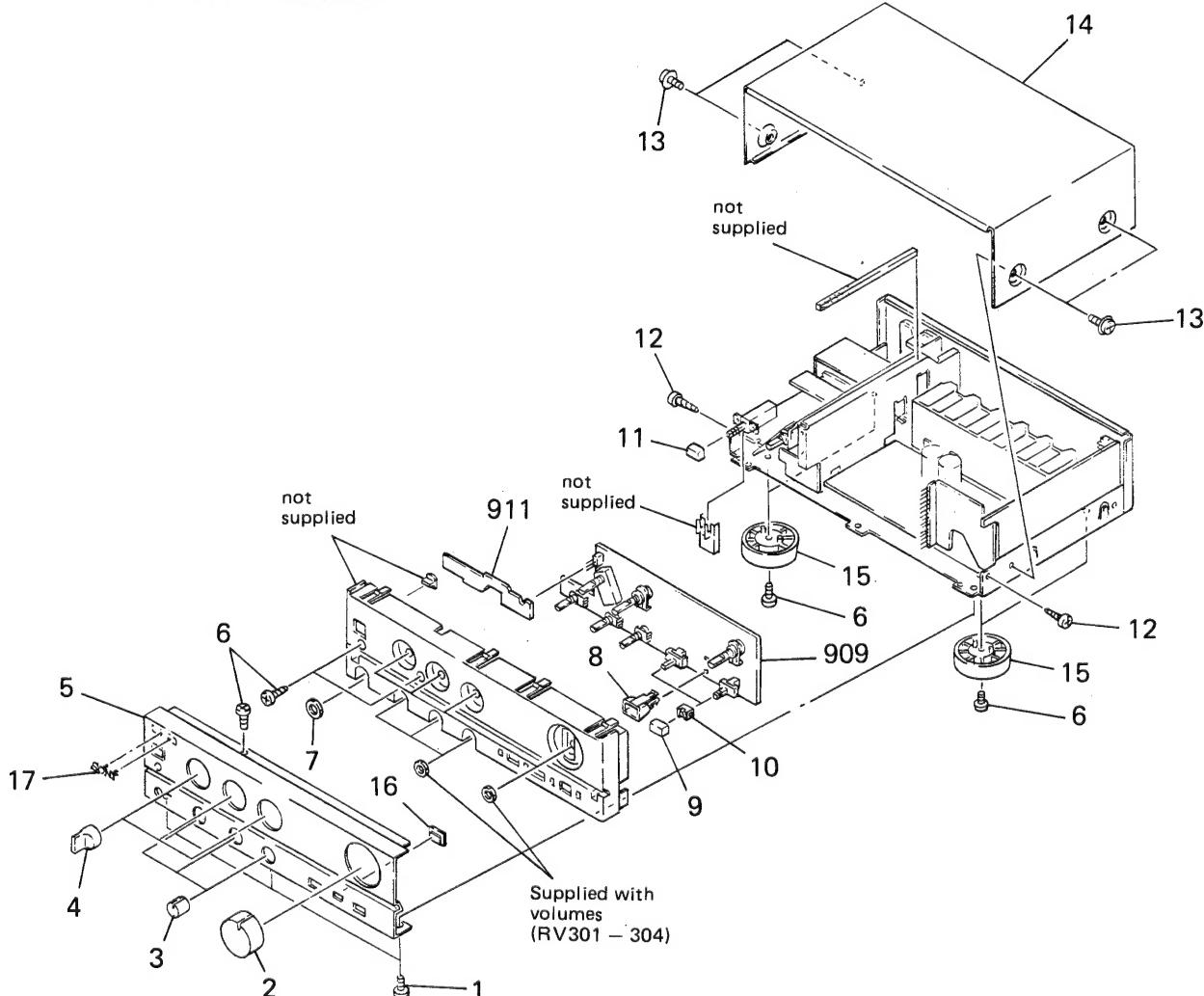
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.

- Color Indication of Appearance Parts Example:

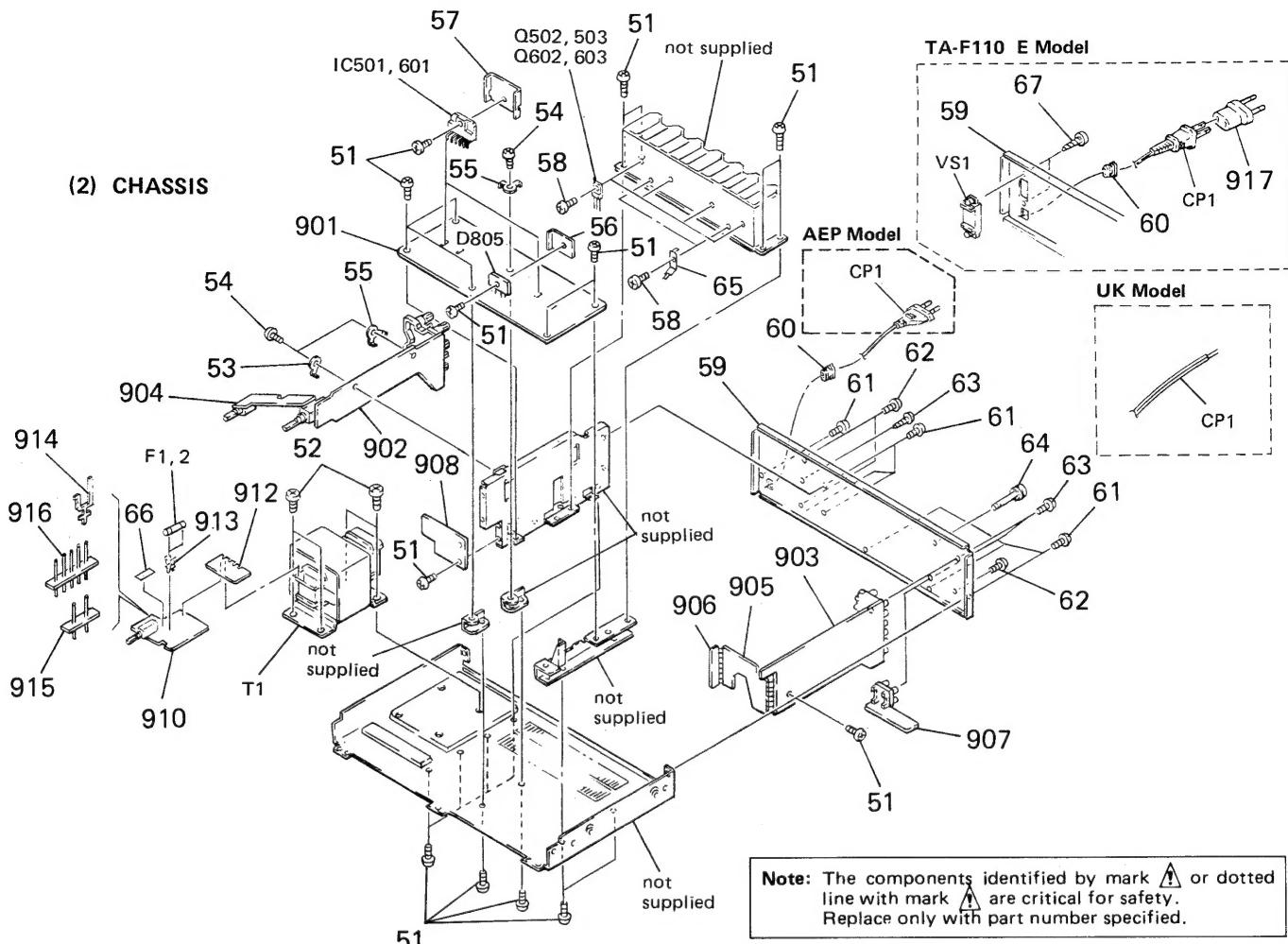
(RED) ... KNOB, BALANCE (WHITE)
 ↑ ↑
 Cabinet's Color Parts Color

The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.

- Abbreviation
WG: West Germany Model
- Illustration
Mainly TA-F210

(1) FRONT PANEL ASSEMBLY

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
1	3-703-685-21	SCREW (+BV 3X8)		11	4-929-289-01	BUTTON	
2	4-929-288-11 (F110)...KNOB (VOL 47)			12	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
	4-929-299-01 (F210)...KNOB (47)			13	3-704-366-01	SCREW (CASE) (M3X8)	
3	4-916-746-11	KNOB (DIA.21), ROUND		14	4-929-294-11	CASE	
4	4-916-729-01	KNOB (DIA.29)		15	X-3304-938-2 (EXCEPT F110:E)...FOOT ASSY		
5	4-929-293-01 (F110)...PANEL, FRONT				X-4885-950-1 (F110:E).....FOOT ASSY		
	4-929-293-11 (F210)...PANEL, FRONT			16	4-929-284-01	PLATE, INDICATION	
6	7-682-548-04	SCREW +BVTP 3X8 (S)		17	4-908-848-01	EMBLEM, SONY	
7	4-931-902-01	NUT (M12X1)		909	*1-630-937-11 (F210)...PC BOARD, FUNCTION		
8	*4-921-389-01	HOUSE			*1-630-941-11 (F110)...PC BOARD, FUNCTION		
9	4-908-875-01	KNOB, SQUARE		911	*1-630-939-11 (F210)...PC BOARD, LED		
10	4-864-307-00	RING			*1-630-943-11 (F110)...PC BOARD, LED		



Note: The components identified by mark or dotted line with mark are critical for safety.
Replace only with part number specified.

No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	7-682-548-04	SCREW +BVTT 3X8 (S)		912	*1-630-940-11	(F210)...PC BOARD, TRANS	
52	7-682-560-04	SCREW +BVTT 4X6 (S)			*1-630-944-11	(F110)...PC BOARD, TRANS	
53	4-870-539-00	PLATE, GROUND		913	*1-533-213-31	HOLDER, FUSE	
54	3-703-685-21	SCREW (+BV 3X8)		914	A.*1-535-771-11	(AEP,WG)...TERMINAL	
55	*3-346-266-12	PLATE, GROUND		915	A.*1-535-139-00	(EXCEPT AEP,WG)...BASE POST 22MM (10MM PITCH) 2P	
56	*4-931-903-01	(F210)...HEAT SINK (DI)		916	A.*1-535-142-00	(F110:E)...BASE POST 22MM(10MM PITCH) 5P	
57	*4-928-442-01	HEAT SINK (S)		917	A.1-526-565-00	(F110:E)...AC PLUG, ADAPTOR	
58	7-682-549-01	SCREW +B 3X10		CP1	A.1-555-750-00	(AEP,WG)...CORD, POWER	
59	*4-929-268-01	(F110:AEP)...PANEL, BACK		CP1	A.1-556-035-11	(UK).....CORD, POWER	
	*4-929-268-21	(F110:WG)....PANEL, BACK		CP1	A.1-558-943-11	(F110:E)...CORD, POWER	
	*4-929-268-31	(F110:UK)....PANEL, BACK		F1	A.1-532-078-00	(F110:E)....FUSE, TIME-LAG T1.0A	
	*4-929-268-41	(F110:E)....PANEL, BACK		F1	A.1-532-203-00	(F110:AEP,WG)...FUSE, TIME-LAG T2A	
	*4-929-269-01	(F210:AEP)...PANEL, BACK		F1	A.1-532-237-00	(F210:UK)....FUSE, TIME-LAG T3.15A	
	*4-929-269-21	(F210:WG)....PANEL, BACK		F1	A.1-532-259-00	(F110:UK)....FUSE, TIME-LAG T1.6A	
	*4-929-269-31	(F210:UK)....PANEL, BACK		F1	A.1-532-286-00	(F210:AEP,WG)...FUSE, TIME-LAG T2.5A	
				F2	A.1-532-078-00	(F110:E)....FUSE, TIME-LAG T1.0A	
60	*3-703-244-00	(EXCEPT F110:E)...BUSHING (2104), CORD		Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	*3-703-571-00	(F110:E)...BUSHING (S)(4516), CORD		Q502	8-729-321-55	(F210)...TRANSISTOR 2SC4386-OPY-LF	
61	7-685-872-09	SCREW +BVTT 3X8 (S)		Q502	8-729-321-57	(F110)...TRANSISTOR 2SC4385-OPY-LF	
62	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		Q503	8-729-321-56	(F210)...TRANSISTOR 2SC1671-OPY-LF	
63	7-621-849-00	SCREW, TAPPING		Q503	8-729-321-58	(F110)...TRANSISTOR 2SC1670-OPY-LF	
64	3-706-165-00	SCREW		Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE	
65	*4-929-285-01	BRACKET (TR)		Q602	8-729-321-55	(F210)...TRANSISTOR 2SC4386-OPY-LF	
66	*3-701-947-13	(F110:UK)...LABEL (T1.6A), FUSE		Q602	8-729-321-57	(F110)...TRANSISTOR 2SC4385-OPY-LF	
	*3-701-947-16	(F210:UK)...LABEL (T3.15A), FUSE		Q603	8-729-321-56	(F210)...TRANSISTOR 2SA1671-OPY-LF	
				Q603	8-729-321-58	(F110)...TRANSISTOR 2SA1670-OPY-LF	
901	*A-4333-591-A	(F210:AEP)...MOUNTED PCB, AMP		T1	A.1-449-581-11	(F210:AEP,WG)...TRANSFORMER, POWER	
	*A-4333-600-A	(F210:WG)...MOUNTED PCB, AMP		T1	A.1-449-582-11	(F210:UK)....TRANSFORMER, POWER	
	*A-4333-604-A	(F210:UK)....MOUNTED PCB, AMP		T1	A.1-449-583-11	(F110:AEP,WG)...TRANSFORMER, POWER	
	*A-4333-609-A	(F110:AEP)...MOUNTED PCB, AMP		T1	A.1-449-584-11	(F110:UK)....TRANSFORMER, POWER	
	*A-4333-617-A	(F110:WG)...MOUNTED PCB, AMP		T1	A.1-449-585-11	(F110:E)....TRANSFORMER, POWER	
	*A-4333-619-A	(F110:UK)....MOUNTED PCB, AMP					
	*A-4333-623-A	(F110:E)....MOUNTED PCB, AMP					
902	*1-630-930-11	PC BOARD, SP SW					
903	*1-630-931-11	PC BOARD, INPUT					
904	*1-630-932-11	PC BOARD, H.P					
905	*1-630-933-11	PC BOARD, CONECT (B)					
906	*1-630-934-11	PC BOARD, CONECT (C)					
907	*1-630-935-11	(F210)...PC BOARD, TAPE					
908	*1-630-936-11	PC BOARD, SHIELD					
910	*1-630-938-11	(F210)...PC BOARD, AC SW		VS1	A.1-570-307-11	(F110:E)...SWITCH, VOLTEGE CHANGE (VOLTAGE SELECTOR)	
	*1-630-942-11	(F110)...PC BOARD, AC SW					

SECTION 7

ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked “★” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: $\mu\mu$ F.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:
 UA...: μ A..., UPA...: μ PA...,
 UPC...: μ PC, UPD...: μ PD...

The components identified by mark  or dotted line with mark  are critical for safety.
 Replace only with part number specified.

- Abbreviation

WG: West Germany Model

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description		
901	*A-4333-591-A *A-4333-600-A *A-4333-604-A *A-4333-609-A *A-4333-617-A *A-4333-619-A *A-4333-623-A	(F210:AEP)...MOUNTED PCB, AMP (F210:WG)...MOUNTED PCB, AMP (F210:UK)...MOUNTED PCB, AMP (F110:AEP)...MOUNTED PCB, AMP (F110:WG)...MOUNTED PCB, AMP (F110:UK)...MOUNTED PCB, AMP (F110:E)...MOUNTED PCB, AMP	C114 C114 C115 C116 C117 C201 C202 C203	1-130-278-11 1-130-473-00 1-124-902-00 1-123-875-11 1-164-091-11 (F210)...FILM (F110)...MYLAR (WG)...CERAMIC	0.0016MF 0.0015MF 0.47MF 10MF 2200PF 220PF 220PF 220PF	5% 100V 5% 50V 20% 50V 20% 50V 10% 50V 10% 50V 10% 50V 10% 50V	
902	*1-630-930-11	PC BOARD, SP SW	C204	1-162-286-31	(WG)...CERAMIC	220PF	10% 50V
903	*1-630-931-11	PC BOARD, INPUT	C205	1-162-286-31	(WG)...CERAMIC	220PF	10% 50V
904	*1-630-932-11	PC BOARD, H.P	C206	1-162-286-31	(WG)...CERAMIC	220PF	10% 50V
905	*1-630-933-11	PC BOARD, CONECT (B)	C207	1-162-286-31	(WG)...CERAMIC	220PF	10% 50V
906	*1-630-934-11	PC BOARD, CONECT (C)	C208	1-164-075-11	CERAMIC	150PF	10% 50V
907	*1-630-935-11	(F210)...PC BOARD, TAPE	C209	1-164-070-11	(WG)...CERAMIC	100PF	5% 50V
908	*1-630-936-11	PC BOARD, SHIELD	C210	1-126-233-11	ELECT	22MF	20% 50V
909	*1-630-937-11 *1-630-941-11	(F210)...PC BOARD, FUNCTION (F110)...PC BOARD, FUNCTION	C211 C211	1-123-333-00 1-126-101-11	(F210)...ELECT (F110)...ELECT	100MF 100MF	20% 25V 20% 16V
910	*1-630-938-11 *1-630-942-11	(F210)...PC BOARD, AC SW (F110)...PC BOARD, AC SW	C212	1-164-075-11	CERAMIC	150PF	10% 50V
911	*1-630-939-11 *1-630-943-11	(F210)...PC BOARD, LED (F110)...PC BOARD, LED	C213	1-130-339-00 1-130-480-00	(F210)...FILM (F110)...MYLAR	0.0056MF 0.0056MF	5% 100V 5% 50V
912	*1-630-940-11 *1-630-944-11	(F210)...PC BOARD, TRANS (F110)...PC BOARD, TRANS	C214 C214	1-130-278-11 1-130-473-00	(F210)...FILM (F110)...MYLAR	0.0016MF 0.0015MF	5% 100V 5% 50V
913	*1-533-213-31	HOLDER, FUSE	C215	1-124-902-00	ELECT	0.47MF	20% 50V
914 	*1-535-771-11 *1-535-139-00	(AEP, WG).....TERMINAL (EXCEPT AEP, WG)...BASE POST 22MM (10MM PITCH) 2P	C216 C217	1-123-875-11 1-164-091-11	ELECT (WG)...CERAMIC	10MF 2200PF	20% 50V 10% 50V
915 	*1-535-142-00 *1-526-565-00	(F110:E)...BASE POST 22MM(10MM PITCH)5P (F110:E)...AC PLUG, ADAPTOR	C301 C302 C303	1-130-481-00 1-130-474-00 1-136-159-00	MYLAR MYLAR FILM	0.0068MF 0.0018MF 0.033MF	5% 50V 5% 50V 5% 50V
C1	1-161-744-00	CERAMIC	C304	1-130-479-00	MYLAR	0.0047MF	5% 50V
C101	1-162-286-31	(F210:WG)...CERAMIC	C305	1-136-157-00	(F210)...FILM	0.022MF	5% 50V
C102	1-162-286-31	(F210:WG)...CERAMIC	C306	1-164-084-11	(F210)...CERAMIC	820PF	10% 50V
C103	1-162-286-31	(WG)...CERAMIC	C307	1-164-085-11	CERAMIC	1000PF	10% 50V
C104	1-162-286-31	(WG)...CERAMIC	C401	1-130-481-00	MYLAR	0.0068MF	5% 50V
C105	1-162-286-31	(WG)...CERAMIC	C402	1-130-474-00	MYLAR	0.0018MF	5% 50V
C106	1-162-286-31	(WG)...CERAMIC	C403	1-136-159-00	FILM	0.033MF	5% 50V
C107	1-162-286-31	(WG)...CERAMIC	C404	1-130-479-00	MYLAR	0.0047MF	5% 50V
C108	1-164-075-11	CERAMIC	C405	1-136-157-00	(F210)...FILM	0.022MF	5% 50V
C109	1-164-070-11	(WG)...CERAMIC	C406	1-164-084-11	(F210)...CERAMIC	820PF	10% 50V
C110	1-126-233-11	ELECT	C407	1-164-085-11	CERAMIC	1000PF	10% 50V
C111	1-123-333-00 1-126-101-11	(F210)...ELECT (F110)...ELECT	C501	1-123-357-00	ELECT	22MF	20% 50V
C112	1-164-075-11	CERAMIC	C502	1-123-345-00	ELECT	100MF	20% 35V
C113	1-130-339-00 1-130-480-00	(F210)...FILM (F110)...MYLAR	C503	1-164-023-11	CERAMIC	15PF	5% 50V
C113	1-130-339-00 1-130-480-00	(F210)...FILM (F110)...MYLAR	C504	1-164-023-11	CERAMIC	15PF	5% 50V
C113	1-130-339-00 1-130-480-00	(F210)...FILM (F110)...MYLAR	C505	1-124-477-11	ELECT	47MF	20% 16V

Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
C506	1-130-317-00	(F210)...FILM	0.068MF	5%	100V	C904	1-164-096-11	(WG)...CERAMIC	0.01MF	50V	
C506	1-136-163-00	(F110)...FILM	0.068MF	5%	50V	C905	1-164-096-11	(WG)...CERAMIC	0.01MF	50V	
C507	1-136-163-00	(EXCEPT F110:E)...FILM	0.068MF	5%	50V	C906	1-162-596-11	(WG)...CERAMIC	0.022MF	25V	
C508	1-136-159-00	(F110:E)...FILM	0.033MF	5%	50V	CNJ101	1-565-320-11	JACK, PIN 6P (PHONO/TUNER/CD)			
C509	1-136-163-00	(EXCEPT F110:E)...FILM	0.068MF	5%	50V	CNJ102	1-565-320-11	JACK, PIN 6P (VIDEO,AUX/TAPE,DAT OR TAPE 1)			
C510	1-124-122-11	(F210)...ELECT	100MF	20%	50V	CNJ103	1-568-529-21	(F210)...JACK, PIN 4P (TAPE 2,DET)			
C511	1-124-122-11	(F210)...ELECT	100MF	20%	50V	CNJ301	1-565-961-11	SOCKET, CONNECTOR 20P			
C512	1-136-163-00	(WG)....FILM	0.068MF	5%	50V	CNJ302*1-565-835-11	SOCKET, CONNECTOR 3P				
C601	1-123-357-00	ELECT	22MF	20%	50V	CNJ303*1-561-650-00	(F210)...SOCKET, CONNECTOR 5P				
C602	1-123-345-00	ELECT	100MF	20%	35V	CNP301	1-565-419-11	PIN, CONNECTOR 10P			
C603	1-164-023-11	CERAMIC	15PF	5%	50V	CNP302	1-565-419-11	PIN, CONNECTOR 10P			
C604	1-164-023-11	CERAMIC	15PF	5%	50V	CNP303	1-506-906-11	(F210)...PIN, CONNECTOR 5P			
C605	1-124-477-11	ELECT	47MF	20%	16V	CNP304	1-568-577-11	PIN, CONNECTOR (PC BOARD) 3P			
C606	1-130-317-00	(F210)...FILM	0.068MF	5%	100V	CNP501*1-564-511-11	PLUG, CONNECTOR 8P				
C606	1-136-163-00	(F110)...FILM	0.068MF	5%	50V	CP1	▲.1-555-750-00	(AEP).....CORD, POWER			
C607	1-136-163-00	(EXCEPT F110:E)...FILM	0.068MF	5%	50V	CP1	▲.1-556-035-11	(UK).....CORD, POWER			
C608	1-136-159-00	(F110:E)...FILM	0.033MF	5%	50V	CP1	▲.1-558-943-11	(F110:E)...CORD, POWER			
C609	1-136-163-00	(EXCEPT F110:E)...FILM	0.068MF	5%	50V	D501	8-719-815-85	DIODE 1S1585			
C610	1-124-122-11	(F210)...ELECT	100MF	20%	50V	D502	8-719-815-85	DIODE 1S1585			
C611	1-124-122-11	(F210)...ELECT	100MF	20%	50V	D601	8-719-815-85	DIODE 1S1585			
C613	1-136-163-00	(WG)....FILM	0.068MF	5%	50V	D602	8-719-815-85	DIODE 1S1585			
C612	1-136-163-00	(WG)....FILM	0.068MF	5%	50V	D701	8-719-200-77	DIODE 10E2N			
C701	1-123-875-11	ELECT	10MF	20%	50V	D702	8-719-000-26	DIODE US1060M			
C702	1-124-499-11	ELECT	1MF	20%	50V	D703	8-719-000-26	(EXCEPT F110:E)...DIODE US1060M			
C703	1-126-176-11	ELECT	220MF	20%	6.3V	D801	8-719-200-77	(F210)...DIODE 10E2N			
C705	1-123-875-11	ELECT	10MF	20%	50V	D802	8-719-200-77	(F210)...DIODE 10E2N			
C706	1-124-443-00	ELECT	100MF	20%	10V	D803	8-719-200-77	(F210)...DIODE 10E2N			
C801	1-125-536-11	(F210).....ELECT	10000MF	20%	50V	D804	8-719-200-77	(F210)...DIODE 10E2N			
C801	1-126-224-11	(F110:UK,E)...ELECT	4700MF	20%	42V	D805	8-719-302-38	(F210:AEP,WG)DIODE RBV-602-01			
C801	1-126-256-11	(F110:AEP,WG)...ELECT	4700MF	20%	35V	D805	8-719-312-09	(EXCEPT F210:AEP,WG)...DIODE RBA-402			
C802	1-125-536-11	(F210).....ELECT	10000MF	20%	50V	D901	8-719-304-14	DIODE SEL2510W			
C802	1-126-224-11	(F110:UK,E)...ELECT	4700MF	20%	42V	D902	8-719-304-14	DIODE SEL2510W			
C802	1-126-256-11	(F110:AEP,WG)...ELECT	4700MF	20%	35V	D903	8-719-303-00	DIODE SEL2510C			
C803	1-126-104-11	ELECT	470MF	20%	35V	D904	8-719-303-00	DIODE SEL2510C			
C804	1-126-104-11	ELECT	470MF	20%	35V	D905	8-719-303-00	DIODE SEL2510C			
C805	1-124-499-11	ELECT	1MF	20%	50V	F1	▲.1-532-078-00	(F110:E)FUSE, TIME-LAG T1.0A			
C806	1-126-103-11	ELECT	470MF	20%	16V	F1	▲.1-532-285-00	(F110:AEP,WG)...FUSE, TIME-LAG T1.25A			
C807	1-126-103-11	ELECT	470MF	20%	16V	F1	▲.1-532-237-00	(210:UK)FUSE, TIME-LAG T3.15A			
C808	1-124-637-11	(EXCEPT F110:AEP,WG) ...ELECT	1000MF	20%	50V	F1	▲.1-532-259-00	(F110:UK)FUSE, TIME-LAG T1.6A			
C808	1-126-105-11	(F110:AEP,WG)...ELECT	1000MF	20%	35V	F1	▲.1-532-286-00	(F210:AEP,WG)...FUSE, TIME-LAG T2.5A			
C809	1-124-637-11	(EXCEPT F110:AEP,WG) ...ELECT	1000MF	20%	50V	F2	▲.1-532-078-00	(F110:E).....FUSE, TIME-LAG T1.0A			
C809	1-126-105-11	(F110:AEP,WG)...ELECT	1000MF	20%	35V	IC101	8-759-601-02	IC M5218P			
C810	1-126-233-11	(F210)...ELECT	22MF	20%	50V	IC501	8-759-109-06	IC UPC1298V			
C811	1-126-233-11	(F210)...ELECT	22MF	20%	50V	IC601	8-759-109-06	IC UPC1298V			
C812	1-123-357-00	(F210)...ELECT	22MF	20%	50V	IC701	8-759-111-68	IC UPC1237HA			
C813	1-123-357-00	(F210)...ELECT	22MF	20%	50V	IC801	8-759-604-34	IC M5F7815			
C814	1-136-163-00	(F110) ..FILM	0.068MF	5%	50V	IC802	8-759-604-52	IC M5F7915			
C815	1-130-798-00	(F210)...FILM	1MF	10%	250V	J901	1-507-863-51	JACK, LARGE TYPE (HEADPHONES)			
C816	1-136-165-00	(F210)...FILM	0.1MF	5%	50V	L501	*1-420-872-00	COIL, AIR CORE			
C817	1-162-596-11	(F110:WG)...CERAMIC	0.022MF	25V	L601	*1-420-872-00	COIL, AIR CORE				
C817	1-130-973-00	(F210:WG)...FILM	0.022MF	10%	100V	Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE			
C818	1-136-163-00	(F110) ..FILM	0.068MF	5%	50V	Q502	8-729-321-55	(F210)...TRANSISTOR 2SC4386-OPY-LF			
C909	1-124-477-11	ELECT	47MF	20%	16V	Q502	8-729-321-57	(F110)...TRANSISTOR 2SC4385-OPY-LF			
C901	1-164-096-11	(WG)...CERAMIC	0.01MF	50V							
C902	1-164-096-11	(WG)...CERAMIC	0.01MF	50V							
C903	1-162-596-11	(WG)...CERAMIC	0.022MF	25V							

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Ref.No.	Part No.	Description				Ref.No.	Part No.	Description			
Q503	8-729-321-56	(F210)...	TRANSISTOR	2SA1671-OPY-LF		R217	1-247-903-00	(F210)...	CARBON	1M	5% 1/4W
Q503	8-729-321-58	(F110)...	TRANSISTOR	2SA1670-OPY-LF		R218	1-247-903-00	CARBON	1M	5%	1/4W
Q504	8-729-108-06	TRANSISTOR	2SC1841			R219	1-247-903-00	CARBON	1M	5%	1/4W
Q601	8-729-119-78	TRANSISTOR	2SC2785-HFE			R220	1-247-903-00	CARBON	1M	5%	1/4W
Q602	8-729-321-55	(F210)...	TRANSISTOR	2SC4386-OPY-LF		R221	1-247-903-00	CARBON	1M	5%	1/4W
Q602	8-729-321-57	(F110)...	TRANSISTOR	2SC4385-OPY-LF		R301	1-247-700-11	CARBON	100	5%	1/4W
Q603	8-729-321-56	(F210)...	TRANSISTOR	2SA1671-OPY-LF		R302	1-246-545-00	CARBON	1M	5%	1/4W
Q603	8-729-321-58	(F110)...	TRANSISTOR	2SA1670-OPY-LF		R303	1-247-717-11	CARBON	2.2K	5%	1/4W
Q604	8-729-108-06	TRANSISTOR	2SC1841			R304	1-247-722-11	CARBON	5.6K	5%	1/4W
Q701	8-729-900-63	TRANSISTOR	DTA124ES			R305	1-246-545-00	CARBON	1M	5%	1/4W
Q704	8-729-245-82	TRANSISTOR	2SC2458-Y			R307	1-247-152-00	CARBON	7.5K	5%	1/4W
Q801	8-729-177-42	(F210)...	TRANSISTOR	2SD774-3		R308	1-247-170-00	CARBON	43K	5%	1/4W
Q802	8-729-140-97	(F210)...	TRANSISTOR	2SB734-34		R309	1-249-464-11	CARBON	39K	5%	1/4W
R11	1-249-405-11	CARBON	100	5%	1/4W	R310	1-249-465-11	CARBON	47K	5%	1/4W
R12	1-249-405-11	CARBON	100	5%	1/4W	R311	1-249-433-11	(F210)...	CARBON	22K	5% 1/4W
R13	1-249-405-11	CARBON	100	5%	1/4W	R312	1-249-441-11	(F210)...	CARBON	100K	5% 1/4W
R101	1-247-713-11	(F210).....	CARBON	1K	5% 1/4W	R313	1-247-903-00	(F210)...	CARBON	1M	5% 1/4W
R102	1-247-708-11	(F210:WG)...	CARBON	470	5% 1/4W	R314	1-249-429-11	(F210)...	CARBON	10K	5% 1/4W
R103	1-247-713-11	CARBON	1K	5%	1/4W	R401	1-247-700-11	CARBON	100	5%	1/4W
R104	1-247-708-11	(WG).....	CARBON	470	5% 1/4W	R402	1-246-545-00	CARBON	1M	5%	1/4W
R105	1-247-708-11	(WG).....	CARBON	470	5% 1/4W	R403	1-247-717-11	CARBON	2.2K	5%	1/4W
R106	1-247-708-11	(WG).....	CARBON	470	5% 1/4W	R404	1-247-722-11	CARBON	5.6K	5%	1/4W
R107	1-247-708-11	(WG).....	CARBON	470	5% 1/4W	R405	1-246-545-00	CARBON	1M	5%	1/4W
R108	1-247-714-11	CARBON	1.2K	5%	1/4W	R407	1-247-152-00	CARBON	7.5K	5%	1/4W
R109	1-249-469-11	CARBON	100K	5%	1/4W	R408	1-247-170-00	CARBON	43K	5%	1/4W
R110	1-247-714-11	(WG).....	CARBON	1.2K	5% 1/4W	R409	1-249-464-11	CARBON	39K	5%	1/4W
R111	1-249-469-11	CARBON	100K	5%	1/4W	R410	1-249-465-11	CARBON	47K	5%	1/4W
R112	1-247-712-11	CARBON	820	5%	1/4W	R411	1-249-433-11	(F210)...	CARBON	22K	5% 1/4W
R113	1-246-539-00	(F110)...	CARBON	560K	5% 1/4W	R412	1-249-441-11	(F210)...	CARBON	100K	5% 1/4W
R113	1-249-618-11	(F210)...	CARBON	560K	5% 1/4W	R413	1-247-903-00	(F210)...	CARBON	1M	5% 1/4W
R114	1-249-465-11	CARBON	47K	5%	1/4W	R414	1-249-429-11	(F210)...	CARBON	10K	5% 1/4W
R115	1-249-469-11	CARBON	100K	5%	1/4W	R501	1-247-713-11	CARBON	1K	5%	1/4W
R116	1-247-704-11	CARBON	220	5%	1/4W	R502	1-249-469-11	CARBON	100K	5%	1/4W
R117	1-247-903-00	(F210)...	CARBON	1M	5% 1/4W	R503	1-247-711-11	(F210:UK)...	CARBON	680	5% 1/4W
R118	1-247-903-00	CARBON	1M	5%	1/4W	R503	1-247-712-11	(F110:UK,E/F210:AEP,WG)	...CARBON	820	5% 1/4W
R119	1-247-903-00	CARBON	1M	5%	1/4W	R503	1-247-714-11	(F110:AEP,WG)...	CARBON	1.2K	5% 1/4W
R120	1-247-903-00	CARBON	1M	5%	1/4W	R504	1-249-496-11	(F110)...	CARBON	100K	5% 1/2W
R121	1-247-903-00	CARBON	1M	5%	1/4W	R504	1-249-721-11	(F210)...	CARBON	100K	5% 1/2W
R201	1-247-713-11	(F210)...	CARBON	1K	5% 1/4W	R505	1-249-460-11	CARBON	15K	5%	1/4W
R202	1-247-708-11	(F210:WG)...	CARBON	470	5% 1/4W	R506	1-249-423-11	CARBON	3.3K	5%	1/4W
R203	1-247-713-11	CARBON	1K	5%	1/4W	R507	1-249-419-11	CARBON	1.5K	5%	1/4W
R204	1-247-708-11	(WG).....	CARBON	470	5% 1/4W	R508	▲ 1-247-688-11	CARBON	10	5%	1/4W F
R205	1-247-708-11	(WG)...	CARBON	470	5% 1/4W	R509	▲ 1-216-361-00	METAL OXIDE	0.22	5%	2W F
R206	1-247-708-11	(WG)...	CARBON	470	5% 1/4W	R510	▲ 1-216-361-00	(F210)...	METAL OXIDE	0.22	5% 2W F
R207	1-247-708-11	(WG)...	CARBON	470	5% 1/4W	R511	▲ 1-247-688-11	CARBON	10	5%	1/4W F
R208	1-247-714-11	CARBON	1.2K	5%	1/4W	R512	▲ 1-247-704-11	CARBON	220	5%	1/4W F
R209	1-249-469-11	CARBON	100K	5%	1/4W	R513	1-247-719-11	(F110:AEP,WG)...	CARBON	3.3K	5% 1/4W
R210	1-247-714-11	(WG)...	CARBON	1.2K	5% 1/4W	R513	1-247-724-11	(F110:UK,E)...	CARBON	8.2K	5% 1/4W
R211	1-249-469-11	CARBON	100K	5%	1/4W	R513	1-247-725-11	(F210:AEP,WG)...	CARBON	10K	5% 1/4W
R212	1-247-712-11	CARBON	820	5%	1/4W	R513	1-249-464-11	(F210:UK)	CARBON	39K	5% 1/4W
R213	1-246-539-00	(F110)...	CARBON	560K	5% 1/4W	R514	1-247-727-11	CARBON	10	5%	1/2W
R213	1-249-618-11	(F210)...	CARBON	560K	5% 1/4W	R515	1-249-465-11	CARBON	47K	5%	1/4W
R214	1-249-465-11	CARBON	47K	5%	1/4W	R516	1-247-727-11	CARBON	10	5%	1/2W
R215	1-249-469-11	CARBON	100K	5%	1/4W	R521	▲ 1-216-361-00	METAL OXIDE	0.22	5%	2W F
R215	1-247-704-11	CARBON	220	5%	1/4W	R522	▲ 1-216-361-00	(F210)...	METAL OXIDE	0.22	5% 2W F
R216	1-247-704-11	CARBON	220	5%	1/4W	R601	1-247-713-11	CARBON	1K	5%	1/4W
						R602	1-249-469-11	CARBON	100K	5%	1/4W

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Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R603	1-247-711-11	(F210:UK)....CARBON 680 5% 1/4W	R807	▲1-247-695-11	(F210:AEP,WG)....CARBON 39 5% 1/4W F
R603	1-247-712-11	(F110:UK,E/F210:AEP,WG) ...CARBON 820 5% 1/4W	R807	▲1-247-697-00	(F210:UK)....CARBON 56 5% 1/4W F
R603	1-247-714-11	(F110:AEP,WG)....CARBON 1.2K 5% 1/4W	R901	1-247-743-11	(AEP,WG)....CARBON 220 5% 1/2W
R604	1-249-496-11	(F110)....CARBON 100K 5% 1/2W	R901	1-247-744-11	(F210:UK)....CARBON 270 5% 1/2W
R604	1-249-721-11	(F210)....CARBON 100K 5% 1/2W	R901	1-247-745-11	(F110:UK,E)....CARBON 330 5% 1/2W
R605	1-249-460-11	CARBON 15K 5% 1/4W	R902	1-247-743-11	(AEP,WG)....CARBON 220 5% 1/2W
R606	1-249-423-11	CARBON 3.3K 5% 1/4W	R902	1-247-744-11	(F210:UK)....CARBON 270 5% 1/2W
R607	1-249-419-11	CARBON 1.5K 5% 1/4W	R902	1-247-745-11	(F110:UK,E)....CARBON 330 5% 1/2W
R608	▲1-247-688-11	CARBON 10 5% 1/4W F	R903	1-247-727-11	(WG)....CARBON 10 5% 1/2W
R609	▲1-216-361-00	METAL OXIDE 0.22 5% 2W F	R904	1-247-727-11	(WG)....CARBON 10 5% 1/2W
R610	▲1-216-361-00	(F210)....METAL OXIDE 0.22 5% 2W F	R905	1-247-727-11	(WG)....CARBON 10 5% 1/2W
R611	▲1-247-688-11	CARBON 10 5% 1/4W F	R906	1-247-727-11	(WG)....CARBON 10 5% 1/2W
R612	▲1-247-704-11	CARBON 220 5% 1/4W F	R907	1-249-412-11	CARBON 390 5% 1/4W
R613	1-247-719-11	(F110:AEP,WG)....CARBON 3.3K 5% 1/4W	R908	1-249-413-11	CARBON 470 5% 1/4W
R613	1-247-724-11	(F110:UK,E)....CARBON 8.2K 5% 1/4W	R909	1-249-413-11	CARBON 470 5% 1/4W
R613	1-247-725-11	(F210:AEP,WG)....CARBON 10K 5% 1/4W	R911	1-247-743-11	(AEP,WG)....CARBON 220 5% 1/2W
R613	1-249-464-11	(F210:UK)....CARBON 39K 5% 1/4W	R911	1-247-744-11	(F210:UK)....CARBON 270 5% 1/2W
R614	1-247-727-11	CARBON 10 5% 1/2W	R911	1-247-745-11	(F110:UK,E)....CARBON 330 5% 1/2W
R615	1-249-466-11	CARBON 56K 5% 1/4W	R912	1-247-743-11	(AEP,WG)....CARBON 220 5% 1/2W
R616	1-247-727-11	CARBON 10 5% 1/2W	R912	1-247-744-11	(F210:UK)....CARBON 270 5% 1/2W
R616	1-247-727-11	CARBON 10 5% 1/2W	R912	1-247-745-11	(F110:UK,E)....CARBON 330 5% 1/2W
R621	▲1-216-361-00	METAL OXIDE 0.22 5% 2W F	RV301	1-238-513-11	RES, VAR, CARBON 150K/150K (BALANCE)
R622	▲1-216-361-00	(F210)....METAL OXIDE 0.22 5% 2W F	RV302	1-238-514-11	RES, VAR 250K/250K (TONE:TREBLE)
R622	▲1-216-361-00	(F210)....METAL OXIDE 0.22 5% 2W F	RV303	1-238-515-11	RES, VAR, CARBON 520K/520K (TONE:BASS)
R701	1-247-723-11	(F110:AEP,WG)....CARBON 6.8K 5% 1/4W	RV304	1-238-512-11	RES, VAR, CARBON 120K/120K (VOLUME)
R701	1-247-724-11	(F110:UK,E)....CARBON 8.2K 5% 1/4W	RV501	1-237-455-11	RES, ADJ, CARBON 500
R701	1-247-725-11	(F210:AEP,WG)....CARBON 10K 5% 1/4W	RV601	1-237-455-11	RES, ADJ, CARBON 500
R701	1-249-460-11	(F210:UK)....CARBON 15K 5% 1/4W	RY701	1-515-501-00	(F210)....RELAY
R702	1-249-437-11	CARBON 47K 5% 1/4W	RY701	1-515-533-11	(F110)....RELAY
R703	1-249-441-11	CARBON 100K 5% 1/4W	S1	▲1-554-920-21	SWITCH, PUSH (AC POWER)(1 KEY)(POWER)
R704	1-249-437-11	CARBON 47K 5% 1/4W	S301	1-571-871-11	(F210)....SWITCH, ROTARY SLIDDE (INPUT SELECTOR)
R705	▲1-215-890-11	(F110:E/F210:AEP) ...METAL OXIDE 470 5% 2W F	S302	1-571-871-11	(F210)....SWITCH, ROTARY SLIDDE (REC OUT SELECTOR)
R705	▲1-215-891-11	(F210:UK)....METAL OXIDE 680 5% 2W F	S302	1-571-873-11	(F110)....SWITCH, ROTARY SLIDDE (INPUT SELECTOR)
R705	▲1-216-428-00	(F110:AEP,WG)....METAL OXIDE 180 5% 1W F	S303	1-571-828-11	SWITCH, PUSH (1 KEY)(SOURCE DIRECT)
R705	▲1-216-430-11	(F110:UK)....METAL OXIDE 390 5% 1W F	S304	1-571-828-11	(F210)....SWITCH, PUSH(1 KEY)(LOUDNESS)
R706	1-247-725-11	(F110:AEP,WG)....CARBON 10K 5% 1/4W	S304	1-571-872-11	(F110)....SWITCH, PUSH(1 KEY) (TAPE/DAT MONITER)
R706	1-249-459-11	(F110:UK,E/F210:AEP,WG)CARBON 12K 5% 1/4W	S901	1-571-870-11	SWITCH, ROTARY SLIDDE (SPEAKERS)
R706	1-249-460-11	(F210:UK)....CARBON 15K 5% 1/4W	T1	▲1-449-581-11	(F210:AEP,WG)....TRANSFORMER, POWER
R708	1-249-419-11	CARBON 1.5K 5% 1/4W	T1	▲1-449-582-11	(F210:UK)....TRANSFORMER, POWER
R801	▲1-215-911-11	(F110:AEP,WG)....METAL OXIDE 100 5% 3W F	T1	▲1-449-583-11	(F110:AEP,WG)....TRANSFORMER, POWER
R801	▲1-215-914-11	(F110:E/F210:AEP,WG) ...METAL OXIDE 330 5% 3W F	T1	▲1-449-584-11	(F110:UK)....TRANSFORMER, POWER
R801	▲1-216-477-11	(F110:UK)....METAL OXIDE 270 5% 3W F	T1	▲1-449-585-11	(F110:E)....TRANSFORMER, POWER
R801	▲1-216-478-11	(F210:UK)....METAL OXIDE 390 5% 3W F	TM901	1-537-227-11	(AEP)....TERMINAL BOARD (SP) (SPEAKER A/B)
R802	▲1-215-917-11	(F110:UK)....METAL OXIDE 1K 5% 3W F	TM901	1-537-228-11	(WG,UK,F110:E)....TERMINAL BOARD (SP) (SPEAKER A/B)
R802	▲1-216-478-11	(F110:AEP,WG)....METAL OXIDE 390 5% 3W F	TP1	*1-535-115-00	TERMINAL
R802	▲1-216-481-11	(F110:E/F210:AEP,WG) ...METAL OXIDE 1.2K 5% 3W F	TP2	*1-535-115-00	TERMINAL
R802	▲1-216-482-11	(F210:UK)....METAL OXIDE 1.8K 5% 3W F	VS1	▲1-570-307-11	(F110:E)....SWITCH, VOLTEGE CHANGE (VOLTAGE SELECTOR)
R803	▲1-249-447-11	(F110)....CARBON 1 5% 1/4W F			
R803	▲1-249-451-11	(F210)....CARBON 2.2 5% 1/4W F			
R804	▲1-249-447-11	(F110)....CARBON 1 5% 1/4W F			
R804	▲1-249-451-11	(F210)....CARBON 2.2 5% 1/4W F			
R805	▲1-247-713-11	(F210)....CARBON 1K 5% 1/4W F			
R805	▲1-249-381-11	(F110)....CARBON 1 5% 1/4W F			
R806	▲1-247-715-11	(F210)....CARBON 1.5K 5% 1/4W F			
R806	▲1-249-381-11	(F110)....CARBON 1 5% 1/4W F			

Note: The components identified by mark ▲ or dotted line with mark ▲ are critical for safety. Replace only with part number specified.

ACCESSORY & PACKING MATERIAL

3-750-399-11 (EXCEPT WG)...MANUAL, INSTRUCTION
(ENGLISH,FRENCH,SPANISH,PORTUGUESE)
3-750-399-41 (WG)...MANUAL, INSTRUCTION
(GERMAN,DUTCH,SWEDISH,ITALIAN)
3-750-399-51 (WG)...MANUAL, INSTRUCTION (GERMAN)

*4-929-258-01 (F110)...INDIVIDUAL CARTON
*4-929-259-01 (F210)...INDIVIDUAL CARTON

*4-929-260-01 CUSHION

9-953-745-12
(Including 9-953-745-91)

Sony Corporation
Audio Group

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Published by A/V Engineering Service Dept.

English
90 J 0210-1 (2)
Printed in Japan
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